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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/929,722

08/14/2001

James M. Zavislan

ML-0473C

1148

7590

01/21/2004

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EXAMINER

FINEMAN, LEE A

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/929,722	Applicant(s) ZAVISLAN, JAMES M.	
	Examiner Lee Fineman	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/14/01 & 1/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 October 2003 has been entered in which claims 12 and 18 were amended. Claims 12-19 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto, U.S. Patent No. 5,973,785.

In figures 1 and 20, Okamoto discloses a confocal scanning microscope for imaging a sample (2) comprising a means for producing a beam of light (1 and 4) which has two modes and wherein each mode has opposing phases, a beam splitter (15), means for focusing (objective, 5) and a means for detecting the returned light (detector, as shown in figure 20) and the beam of light is focused at two spots (one spot being that of the first mode and the other spot being that of

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the second mode) to cause destructive interference around the periphery of the small focused spot which improves the contrast of the image due to the reduction in size of the focused point of light (see column 15, line 45 to column 16, line 28). Therefore, the overlapping modes also produce a reduced return light at the section as well as behind the section (in so far as the interference has made the focused light and return light smaller than it otherwise would have been).

Okamoto discloses the imaging system having first and second modes of light which are formed into spots that are in an opposing phase relationship, wherein the spots overlap one another behind the section in so far as a sample has differing heights and "behind said section" is interpreted as a level different from the plane of focus (section) of the specimen in the direction of the illuminating beam (in light of the only teaching in the instant case's specification of "behind" on page two, lines 10-12).

Although Okamoto discloses an optical system of confocal type, in figure 20 Okamoto fails to specify the optical components that make up the optical system. It is noted by the Examiner that it is an inherent characteristic within the art of confocal microscopes to place an aperture in front of the detector, as set forth in the claims. Further, the confocal systems reduce part of return light from sites adjacent the section at one of behind, ahead, or behind and ahead of the section (reduced depth of field by the pinhole) as set forth in the claims.

With respect to claim 19, Okamoto further discloses the light directed into the medium/sample and returned light collected from the medium share substantially said objective (figs. 1 and 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Official Notice.

In figure 20, Okamoto discloses a confocal scanning microscope as described above but fails to teach the objective lens (5) to be capable of moving up and down in the z-direction.

Official Notice is taken that it is well known in the art to move the objective lens up and down in the z-direction. Therefore it would have been obvious to one having ordinary skill in the art to move the objective lens up and down to enable the microscope to focus light.

It is noted as directed by the MPEP 2144.03 that if the applicant does not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). As such, the official notice statement of the examiner is now held to be admitted prior art.

5. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Hill U.S. Patent No. 5,760,901.

In figure 20 Okamoto discloses a confocal scanning microscope as described above but fails to teach a reference arm. In figure 1a, Hill discloses a confocal interference microscope comprising a reference arm (light directed to mirror 120). Therefore it would have been obvious to one of ordinary skill in the art to use a reference mirror that assumes the role of a reference arm for the purpose of enabling the user to more accurately treat the collected information, such as interference effects, from the sample.

Response to Arguments

6. Regarding claim 12, applicant argues that Okamoto fails to provide any part of the return light from the sites adjacent the section at one of behind, ahead, or behind and ahead of the section is reduced. The examiner respectfully disagrees. Confocal imaging employs an aperture or pinhole system which increases the resolution and reduces the depth of field, therefore part of the return light from the sites adjacent the section at one of behind, ahead, or behind and ahead of the section is reduced.

Regarding claims 18 and 19, applicant also argues that Okamoto fails to provide in which the modes overlap to reduce the part of the return light from the sites adjacent the section at one of behind, ahead, or behind and ahead of the section. The examiner respectfully disagrees. By causing interference with the modes of light, Okamoto produces a reduced return light at the section as well as behind the section (in so far as the interference has made the focused light and return light smaller than it otherwise would have been). Further it is noted that applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., phase differences of the light when it reaches the

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detector) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. In response to applicant's argument regarding claims 14-17 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., return light onto its detector is made "in phase") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishiwaki et al., U.S. Patent No. 5,343,038 discloses the properties of confocal systems (column 2, lines 6-16).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (703) 305-5414. The examiner can normally be reached on Monday - Friday 7:30 - 4:00. Please note that as of 21 January 2004, the examiner's phone number will be changed to 571-272-2313.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

LAF

LAF

January 7, 2004

[Signature]
MARK A. ROBINSON
PRIMARY EXAMINER